High Temperature 2017 vol.55 N1, pages 120-123

Thermohydrodynamic studies of vertical wells with hydraulic fracturing of a reservoir

Khairullin M., Gadil'shina V., Shamsiev M., Morozov P., Abdullin A., Badertdinova E.
Kazan Federal University, 420008, Kremlevskaya 18, Kazan, Russia

Abstract

© 2017, Pleiades Publishing, Ltd.A mathematical model to describe thermohydrodynamic processes in the system "oil reservoir–hydraulic fracture" is developed. A method for determining filtration and thermophysical parameters of the reservoir and fracture is proposed. Curves of the change of the downhole temperature and pressure are used as initial information.

http://dx.doi.org/10.1134/S0018151X17010114

References

[1] Basniev, K.S., Dmitriev, N.M., Kanevskaya, R.D., and Maksimov, V.M., Podzemnaya gidromekhanika (Underground Fluid Mechanics), Izhevsk Inst. Komp. Issled., 2006.

[2] Kanevskaya, R.D., Zarubezhnyi i otechestvennyi opyt primeneniya gidrorazryva plasta (Foreign and Russian Experience in the Application of Hydraulic Fracturing), Moscow VNIIOENG, 2002.

[3] Economides, M.J. and Nolte, K.G., Reservoir Stimulation, New York Wiley, 2000.

[4] Khairullin, M.Kh., Khisamov, R.S., Shamsiev, M.N., and Badertdinova, E.R., Gidrodinamicheskie metody issledovaniya vertikal'nykh skvazhin s treshchinoi gidrorazryva plasta (Hydrodynamic Methods of Research of Vertical Wells with Hydraulic Fracturing Crack), Izhevsk Inst. Komp. Issled., 2014.

[5] Cinco-Ley, H., Samaniego, V.F., and Dominguez, A.N., Soc. Pet. Eng. J., 1978, vol. 18, no. 4, p. 253.

[6] Badertdinova, E.R., Salim'yanov, I.T., Khairullin, M.Kh., and Shamsiev, M.N., J. Appl. Mech. Tech. Phys., 2012, vol. 53, no. 3, p. 379.

[7] Badertdinova, E.R., Khairullin, M.Kh., and Shamsiev, M.N., High Temp., 2011, vol. 49, no. 5, p. 769.

[8] Khairullin, M.Kh., Shamsiev, M.N., Badertdinova, E.R., and Abdullin, A.I., High Temp., 2012, vol. 50, no. 6, p. 774.

[9] Chekalyuk, E.B., Termodinamika neftyanogo plasta (Thermodynamics of Oil Reservoir), Moscow Nedra, 1965.